

Claims

- 1 1. A network router having an internal automated backup, comprising:
 - 2 a primary port facility;
 - 3 a card array having at least one backup router card; and
 - 4 a switched fabric, wherein the switched fabric automatically replaces a
 - 5 failed router card connected to the primary port facility with a backup router card
 - 6 from the card array.
- 7 2. The router of claim 1, wherein the primary port facility comprises a primary
- 8 processor and a secondary processor.
- 9 3. The router of claim 1, wherein the primary port facility has serial connection
- 10 ports for connecting to router cards.
- 11 4. The router of claim 1, wherein the switched fabric comprises:
 - 12 an information system for receiving a failure message from the primary
 - 13 port facility; and
 - 14 a switching system for mechanically replacing the failed router card with
 - 15 the backup router card in response to the failure message.

1 5. The router of claim 4, wherein the information system includes a bus for
2 communicating routing information between the primary port facility and the card
3 array.

1 6. The router of claim 4, wherein the switching system includes a replacement
2 mechanism for mechanically replacing the failed router card with the backup
3 router card.

1 7. The router of claim 1, wherein the failed router card is moved into an expanded
2 bay by the switched fabric.

1 8. A network router having an internal automated backup, comprising:
2 a primary port facility;
3 a card array having at least one backup router card; and
4 a switched fabric for automatically replacing a failed router card
5 connected to the primary port facility with a backup router card from the card
6 array, wherein the switched fabric includes an information system for receiving a
7 failure message from the primary port facility and a switching system for
8 replacing the failed router card with the backup router card.

1 9. The router of claim 8, wherein the primary port facility includes a primary
2 processor and a secondary processor.

1 10. The router of claim 8, wherein the switching system includes a replacement
2 mechanism for mechanically replacing the failed router card with the backup
3 router card.

1 11. The router of claim 8, wherein the information system includes a bus for
2 communicating routing information between the primary port facility and the card
3 array.

1 12. The router of claim 8, wherein router cards connect to the primary port
2 facility and the card array via male-female connections.

1 13. The router of claim 8, wherein the failed router card is moved into an
2 expanded bay by the switched fabric.

13. The router of claim 8, wherein the failed router card is moved into an expanded bay by the switched fabric.

1 14. A network router having an internal automated backup, comprising:
2 a primary port facility having a primary processor and a secondary
3 processor;
4 a card array having backup router cards; and
5 a switched fabric for automatically replacing a failed router card
6 connected to the primary port facility with a backup router card from the card
7 array, wherein the switched fabric includes an information system for receiving a
8 failure message from the primary port facility and a switching system for
9 mechanically replacing the failed router card with the backup router card.

1 15. The router of claim 14, wherein the switching system comprises a
2 replacement mechanism that connects and disconnects router cards from the
3 primary port facility and the card array.

1 16. The router of claim 15, wherein the router cards connect to the primary port
2 facility and the card array via male-female connections.

1 17. The route of claim 14, wherein the information system includes a bus that
2 communicates routing information between the primary port facility to the card
3 array.

1 18. The router of claim 14, wherein the failed router card is moved into an
2 expanded bay by the switched fabric.